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Journal of the Society of Arts.

FRIDAY, OCTOBER 11, 1861.

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INTERNATIONAL EXHIBITION OF 1862.

The Council beg to announce that the Guarantee Deed is now lying at the Society's House for signature, and they will be much obliged if those gentlemen who have given in their names as Guarantors, will make it convenient to call there and attach their signatures to the Document. Signatures for sums amounting in the aggregate to £433,000, have been attached to the Deed.

WEEKLY PROGRESS OF THE INTERNATIONAL EXHIBITION.

During the past week the works have continued to advance with gigantic strides, and there seems no reason to doubt that the contractors, with their immense resources, could, if necessary, complete the building at even an earlier date than the one fixed upon. At present they have 1,080 men at work, of whom 960 are on the ground, the remainder being at Thames Bank, where the iron for the domes is being prepared.

The contract for this portion of the works has been taken by the Thames Bank Iron Company, and they have also undertaken to build the domes from the point where they spring from the columns. The erection of the eastern dome will commence immediately. Much of the work has been on the ground some days, only awaiting the fixing. Meanwhile the nave and eastern transepts are being rapidly pushed forward, ten ribs of the roof being raised in the nave, eight in the south-eastern, and two in the north-eastern transept. Eight windows of the clerestory in the nave are also in their places, and sufficient has been roofed in to prove that this part of the building is admirably adapted for exhibiting purposes. It can now be seen that the light is distributed in such a manner as to satisfy the wishes of every exhibitor. The scaffolding intended for the western dome has risen to five stories.

The picture galleries are progressing fast, and the visitor who may choose to mount the ladders which lead to them will be able to realise fully their noble proportions, as well as to admire the manner in which they are lighted, and which, (carried out so successfully by Captain Fowke, in the galleries of the South Kensington Museum,) was based upon a principle adopted by Mr. Sheepshanks, in his private gallery at Rutland-gate. The glazing of these top lights has already begun. The enormous angle pieces which are to bear the roof of the eastern tower, at the intersection of the Cromwell and Exhibition roads, may also be observed to be springing from the four corners.

It is intended that the central portion of the Picture Gallery, which is the part hereafter to be leased to the Society of Arts, shall be roofed with slate, and the material for the purpose is on the ground. The other portions of the building, with the exception of the glass courts, will be covered with felt in double thickness. This part of the work has also been let to a sub-contractor, who has moreover engaged to keep it in repair and watertight until the end of the Exhibition. The felt which covers the machinery shed is laid, and a portion of that over the roof of the nave.

The demands for space have now all been received, and amount probably to 10,000. In the course of this week will be known the whole amount of space which has been applied for, and which cannot be less than six times that at the disposal of Her Majesty's Commissioners. As many of the readers of the *Journal* are proposed exhibitors, it may not be uninteresting to them to know somewhat of the manner in which their applications will probably be dealt with.

As soon as it is known how much space has been applied for in each class, Her Majesty's Commissioners will proceed to allot a proportionate amount to each, which will be placed in the power of the different committees. For classes which have a national interest, such as railway plant, machinery, civil, naval and military engineering, education, &c., committees have been appointed who will allot the space entrusted to them to exhibitors in all parts of the country. For other classes, Metropolitan Trade Committees and Local Committees will perform the same operation. Applicants who wish to exhibit in classes which are not represented by National Committees, and who are removed from any town which has appointed a Local Committee, will have their claims submitted to the Metropolitan Trade Committees for such classes.

It is obvious that the space applied for being so much greater than that which can be allotted, the different Committees will have to exercise great discretion in the manner in which they apportion the space entrusted to them. It will be their duty first to expunge from the lists applications made for objects which have no interest in an industrial exhibition, or which do not fairly represent the industry of the country. Many intending exhibitors, under the idea that the space allotted to them will be in proportion to that demanded, have applied for a quantity far in excess of their actual requirements. These demands give no title whatever to any space, and it will be for the Committees to see that those who may be entitled to space have no more than is absolutely sufficient to meet their fair necessities. No one in any case can be considered an exhibitor until he has been so constituted by a Committee.

It is said that many exhibitors intend to use the cases which they have had made for former exhibitions; from the different character of the building in 1862 to that of any former exhibition, it would be but in few instances that such cases could be employed, even supposing the requisite amount of space were at hand on which to place them.

The following arrangements have been made since the last announcement:—

Venezula.

Senor Jose Antonio Carrillo, consul at Burdeos; John D. Powles, Esq., and James Kennedy Arthur, Esq., of London. Frederick Herbert Hemming, Esq., consul for Venezula, 25, Moorgate-street, London, will act as commissioner in London.

BUILDINGS FOR THE EXHIBITION OF 1862.

The following description of the Buildings is abridged from a pamphlet recently published*:—

The Site

of the principal portion of the buildings adjoins the Royal Horticultural Gardens at South Kensington. It lies between Prince Albert's-road on the west, Exhibition-road on the east, and Cromwell-road on the south. The ground belongs to the Commissioners for the Exhibition of 1851, and was purchased by them out of the surplus funds of that Exhibition.

The Character of the Structures,

unlike the uniform glass building in 1851, is varied, the different purposes for which the buildings are destined having been kept in view in designing them by their engineer and architect, Captain Fowke, R.E. The buildings provide on a large scale for four objects;—I. *Picture Galleries*, which require to be solid structures, secure from all accidents of weather, extremely well ventilated, and lighted at the top; II. Ample spaces of different forms, and lighted in different ways, for the *Exhibition of Works of Industry*, arranged in courts and galleries; III. Platforms and wide passages, for *Ceremonials and Processions;* and, IV. Accommodation for *Refreshments*.

The Picture Galleries

occupy three sides of a quadrangle. The largest gallery is in Cromwell-road; this is 1,150 feet long, 50 feet wide, and 50 feet high above the ground floor; being about as long as the Gallery at the Louvre at Paris.

The passage from end to end of this great Picture Gallery is uninterrupted, although the entrance is in the centre of it. The construction is of substantial brickwork. The piers at the entrance are 14 feet wide, and 7 feet thick; and the foundations throughout are of concrete, 5 feet thick. The walls will be lined with wood, and pictures may be hung if desired to a height of 30 feet. The lighting will be on the principle so successfully demonstrated in the Sheepshanks Gallery, which was the first *public* gallery perfectly lighted by day and gas light. These principles require that the quantity of light should be as great as possible, be subject to control, and obtained from above; and that the rays from the skylight incident on the pictures should in no case be reflected by their varnished surfaces, so as to strike the eye of a spectator while standing at a convenient distance for examining the pictures. The inflexibility of these principles, and the necessity for perfect ventilation, have regulated the architectural treatment of the present structure: as the light *must* come from the top, and the pictures *must* hang on the walls, there could therefore be no fenestral treatment in the upper walls. The greatest damage has been done to pictures by want of proper ventilation; the miasma from crowds is most injurious if not effectually removed. In this gallery ample provision has been made for ventilation in the only right and effective places. Not to waste valuable space, a floor has been provided beneath the Picture Galleries, and this must be lighted from the sides. Given, therefore, these conditions of lighting and ventilation and economy of space, as principles which must not be impaired by any considerations of architectural design, it would be interesting to see produced a better structural design for realising them than the present. Time will show how it may be decorated. The principal gallery is intended to receive the largest-sized oil paintings and cartoons.

The Entrance to the Principal Picture Gallery in Cromwell-road

will be through three noble recessed arcades. They are each 20 feet wide, and 50 feet high, and will look as imposing in their quantities as the principal façade of St. John Lateran, at Rome, and other Renaissance *porticoes* of Italy. The visitor enters a vestibule and hall, 150 feet long, and together 110 feet wide, which leads to the Industrial Halls and Galleries; whilst two flights of steps, 20 feet wide, lead on either side up to the Picture Galleries. These entrances invite elaborate decoration hereafter.

The Auxiliary Picture Galleries

are in Prince Albert's and Exhibition Roads. They are 25 feet wide, and about 30 feet high, and jointly 1,200 feet long, and are, of course, lighted and ventilated on the same principles as already described. They will receive the smaller-sized oil paintings, the water-colour paintings, architectural drawings, designs, and engravings.

The Industrial Buildings

will be constructed chiefly of iron, timber, and glass. They consist of the following parts:—Two duodecagonal domes which are 160 feet in diameter and 250 feet high, and are the largest of ancient and modern times. The dome of the Pantheon is 142 feet in diameter and 70 feet high; the dome in the Baths of Caracalla was 111 feet; Bruneleschi's, at Florence, is 139 feet in diameter and 133 feet high; the dome of St. Peters is 158 feet in diameter and 263 feet high from the external plinth; the dome of St. Paul's Cathedral is 112 feet in diameter and 215 feet high. The domes will be of glass, with an outer and inner gallery. It has been proposed to erect one of Messrs. Chance's dioptric lights at the top of one of them and to illuminate it at night. The vista from dome to dome, through the nave, is 1,070 feet. Each of the domes springs from the intersections of the nave with the two transepts. The nave and transepts are 100 feet high and 85 feet wide; the nave is 800 feet long, and the transepts are each about 635 feet long, including the domes. They are lighted on both sides by clerestory windows upwards of 25 feet high, and would reach a mile if extended. The roof will thus be water-tight, which a glass roof can hardly be made. The solid roofs invite decoration within and without. The building will be much cooler in summer and warmer in winter than a merely glass building. The nave, which runs east and west, will thus have a north light, undimmed by blinds, the value of which anyone having any knowledge of art fully understands, but which a public critic, not having the benefit of such assistance, was unable to appreciate. At 25 feet from the ground a gallery runs at each side of the nave and transepts. The level of the ground is five feet below that of the surrounding roads. By a happy conception, Captain Fowke has used this condition to obtain a most picturesque feature at each end. Instead of descending into the building upon entering,

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*** Woodcuts to illustrate this paper are forwarded with the present number, and should be bound with the volume.**

the visitor ascends two steps to a great platform or dais under each dome, and then may descend into the nave and transepts by three noble flights of steps, each 80 feet wide, which lend themselves to most decorative arrangements, or he may ascend into the galleries. The entrance is therefore made on a mezzanine, as it were, of the building. There is more than a mile and a half of upper galleries, some 50 feet and some 25 feet wide ; two courts, each 250 feet by 86 feet ; two courts, each 250 feet by 200 feet ; two central courts—that at the north 150 feet by 86, that at the south 150 feet by 150 feet. All these glass courts are 50 feet high, and lighted from above. These courts will be the only portions which at all resemble the Crystal Palace.

The Entrances to the Industrial Buildings

are in Prince Albert's and Exhibition roads. They are constructed in brick, and are susceptible of any amount of decoration. It is likely that one of the towers and some other portions may be completed as a sample of what the exterior architecture may be made. Each entrance is 55 feet wide. As many exits from the building will be provided as public convenience may require.

The Refreshment Halls and Arcades

will be permanent buildings, and will present novel and striking features. They overlook, with a north aspect, the whole of the Royal Horticultural Gardens, with its cascades, fountains, &c. They will be cool, but with a sunny view. The halls will be 300 feet long and 75 feet wide ; the two arcades will have about 1,500 feet in length and 25 feet in width. All kinds of refreshments, both light and solid, will be supplied. The visitor will be able to obtain,—in the morning, a *déjeuner à la fourchette* ; at luncheon, Neapolitan ices or Bass's ale, and bread and cheese ; at dinner, English roast beeef and plum pudding, or the latest inventions in cookery from Paris, with samples of the wines of all nations. At the close of the Exhibition, they will become the most delightful dining-halls in the metropolis, supplying a great public want in this respect.

The Machinery Galleries

are the only portions which are obviously of a temporary character. They extend along the west side of the Royal Horticultural Gardens for about 1,000 feet in length by 200 feet wide, in four spans of 50 feet wide each. They are constructed of timber, most ingeniously contrived by Captain Fowke for strength, lightness, and cheapness, and offer a very useful suggestion for the cheapest kind of agricultural buildings. These are all of framed work, without any joinery.

The Laying-out of the Works

commenced on the 9th March. The operation required great accuracy, and was performed by three separate agencies: by Mr. Marshall, for the contractors ; and for the Commissioners by Mr. Wakeford, as well as by Sergeant Harkin, of the Royal Engineers, who was sent purposely by Sir Henry James from Southampton. Over a space of ground, 1,200 feet long by 600 feet wide, there was only a mean difference of three-eighth parts of an inch in three several and independent measurements. A bed of gravel underlies the whole ground. The foundations have been excavated to the gravel, and a base of concrete put in, on which brick piers, with York stone slabs, have been placed to receive the iron columns. The slabs for the columns of the great domes weigh upwards of a ton.

The Brickwork.

The bricks are from Kent, and have been supplied by Messrs. Smeed, of Sittingbourne. Upwards of ten millions will be used. The whole of the brick structure will shortly be roofed in, in order that the Picture Galleries may have plenty of time to dry.

The Iron Castings

are executed at the Stavely Iron Works, Derbyshire ; and Mr. Barrow, a leviathan among ironmasters, is himself superintending the operations. The castings are pronounced to be of first-rate quality. There are 166 round columns for the nave and transepts, 12 inches in diameter, connected with a like number of square pilasters ; 312 eight-inch round columns, and 149 twelve-inch square columns, for the galleries ; 138 eight-inch square clerestory columns, and 160 ten-inch square columns, supporting the floors of the Picture Galleries ; 62 round columns for supporting the roofs of the glass courts ; (put all the columns end to end, and they would extend from the Exhibition building, either eastward as far as the London Docks, or westward as far as Kew, or northward as far as Hampstead, or southward to the Sydenham Crystal Palace ;) 1,165 girders throughout, 11,600 feet of pipes, 15,000 feet of gutters, 14,000 feet of railings, 1,000 brackets, 700 trusses and girders, 1,400 shoes, &c. : the whole is estimated to weigh nearly 4,000 tons. The castings were all to be delivered on the ground before the 30th September, which is about the time when the delivery of the iron-work for the Exhibition of 1851 was only beginning.

The Wrought Iron

is supplied by the Thames Iron Company—the builders of the *Warrior*, iron-plated frigate. This will be used chiefly in the great domes and for the roofs. It is estimated to weigh about 1,200 tons. The bracings, trusses, railings, bolts, &c., are made by the contractors. Mr. Ashton, who fixed the ironwork for Sir Joseph Paxton's two glass buildings, is charged with the same duty here.

The Timber-work

is being executed partly at Messrs. Lucas's works, at Lowestoft, and partly at Mr. Kelk's works at the Grosvenor Canal. It is estimated that about 17,000 loads will be consumed. For the windows below the Picture Galleries there are 32 window-frames 16 feet by 13 feet, and 68 window-frames 16 feet by 7 feet. For the top lighting of the galleries, 45,000 feet superficial of frames and glass are in preparation. For the clerestory lights of the nave and transepts, nearly a mile length of frames, 25 feet high, is preparing ; and for the courts, upwards of 30 miles of sash-bars and glass. The framing for the Machinery Halls is preparing on the ground.

The Roofs

will be covered with slates for the great Picture Galleries, and elsewhere with felt, except in parts, to show how ornamental roofing may be hereafter applied.

The Contract

for the whole works has been let to Messrs. Kelk and Charles and Thomas Lucas, Brothers, whose tender was the lowest. These two large firms have become partners for this work. Each firm is known for its great administrative powers, and for having performed feats of construction not before attempted. Mr. Kelk built Mr. J. Fowler's iron bridge across the Thames at Pimlico in twelve months, even with a six weeks' stoppage of the works by a workmen's senseless strike ; whilst the Chelsea Suspension Bridge, within a few yards, had occupied as many years in the " torpid hands of Government." Messrs. Lucas, in a period of only seven months, rebuilt and decorated Covent Garden Theatre ! There can be no doubt that their contract will be completed by the 12th February, unless some unforeseen accident should prevent them. The whole responsibility for the nature and execution of the works rests with the contractors. Mr. Meeson, C.E., prepares the working drawings for them. All proceedings are submitted to Captain Fowke, R.E., who acts for her Majesty's Commissioners. He confers with a Building Committee, consisting of the Earl of Shelburne, Mr. W. Fairbairn, and Mr. W. Baker ; and her Majesty's Commissioners reserve to themselves the final approval of everything. Captain Fowke is assisted by Captain Philpotts and Lieutenant Brooke, and certain non-commissioned officers of the Royal Engineers. Mr. Clemence is the contractors' foreman of works. No clerk of works is employed. The contract is of a threefold character : for the use and waste of the buildings a sum of £200,000 is to be paid absolutely ; if the receipts exceed £400,000, then the contractors are to take up to a further sum of £100,000; and if this sum is fully paid, then the centre acre of the great Picture Galleries is to be left as the property of the Society of Arts. Lastly, the contractors are bound to sell absolutely the remaining rights over the buildings for the further sum of £130,000, which may possibly be paid by the surplus receipts of the Exhibition, if the success be great, of which there is a good prospect.

Whether or not there shall be a surplus depends in great measure on the management. If there be a deficit, the Guarantors, who have liberally taken upon themselves the risk, must provide for it. If there be a surplus, the Guarantors will direct the destination of it.

THE WRECK REGISTER AND CHART FOR 1860.

This chart has now been issued for nine years in connection with the official register of shipwrecks on the coast and in the seas of the United Kingdom, annually presented by the Board of Trade to Parliament. It is hardly possible to overrate the importance of this document, for it details, with great accuracy, an average annual loss of 800 lives, and the destruction of about £1,500,000 of property yearly from these lamentable disasters.

The past year will long be remembered for its stormy character, which penetrated far into the summer, for between the latter end of May and the beginning of June, upwards of 250 shipwrecks occurred.

As might have been expected from the continued succession of bad weather, the number of shipwrecks during the whole year was unusually large, giving a total loss of 1,379. Whilst, however, wrecks and strandings have increased, collisions have happily decreased, being 298 against 349 in 1859; but the whole number of casualties of all kinds in 1860 is 146 above the annual average for the past six years. On the other hand, it is satisfactory to find, that although the number of wrecks and strandings has been greater than usual, the loss of life has been considerably less, being 264 under the annual average of the past nine years. The total loss of life from the 1,379 shipwrecks during the year was 536, whilst 2,152 persons were fortunately saved by life-boats, the rocket and mortar apparatus, shore-boats, and other means—a most gratifying and encouraging result, not only to the poor people themselves thus snatched from a premature death, but also to those who have toiled hard for many years past in organising and completing the means of saving life from shipwreck on our coasts.

With respect to the important services thus performed, there is a terrible sameness in their general character every year, though the details are ever new and ever interesting. It is the same story in one sense, but the several parts of which are infinitely varied. It is always a "brave ship" in distress, always the "winds and the seas roaring," always some "poor souls" who are in the direst extremity of danger. Happily, too, through the instrumentality of the National Life-boat Institution and other bodies, it is nearly always the same story on the humane side. The life-boat is always ready, and a brave crew is ever at hand to man her.

The great and unprecedented loss of life in 1859 was mainly attributable to the destruction of two or three large passenger-ships. It will be remembered that 870 lives were lost in two great calamitous disasters alone, viz.—the wreck of the *Royal Charter*, on the Anglesey coast, and the *Pomona*, on the Blackwater Bank, on the Irish coast.

The *Register* furnishes, as usual, some curious facts relative to the class of ships that are inevitably wrecked when overtaken by a gale of wind. Of the 2,725 vessels wrecked on our coasts during the past two years, 1,504—or more than half—were colliers and of that class; and 1,291 were timber-laden passenger ships and vessels in ballast.

Of these the schooners hold as usual their pre-eminence for wrecking, 912 of them having during the same period gone to pieces. Next to the schooners come the brigs, 644 of which have in the same time met a similar fate. It appears that of the 1,379 vessels wrecked last year, 554 were commanded by masters who were not required to have certificates of competency.

The annexed table shows that the classes of ships to which casualties most frequently occur are those between 50 and 300 tons burthen, which are usually employed in carrying coal, coke, ores, and stone.

	Vessels.
Vessels under 50 Tons	284
51 and under 100 "	393
101 " 300 "	557
301 " 600 "	105
601 " 900 "	25
901 " 1,200 "	9
1,200 and upwards "	6
Total	1,379

The direction of the wind which proved most destructive to vessels wrecked on our coasts last year is also given. 111 vessels were wrecked during the prevalence of the wind from S.W.; 128 from W.N.W.; and 104 from N.W. 8 vessels were wrecked during absolutely calm weather; 151 in a fresh breeze; 168 in a whole gale; 101 in a storm; and 139 in a hurricane.

Twenty-one wrecks took place from not heaving the lead; 2 from intemperance; 35 from general negligence and want of caution; 39 foundered from unseaworthiness; and 5 from defective compasses.

Some curious facts are given in the *Register* regarding the ages of the ships. It appears that when they should be most vigorous they are most feeble. Thus we find that, during the past three years, 377 vessels under 3 years old were wrecked; and 472 between the ages of 3 and 7 years; whilst 644 of them perished between the ages of 15 and 20.

The Wreck Chart shows clearly the site of each of the casualties from shipwrecks on our coasts during the year 1860.

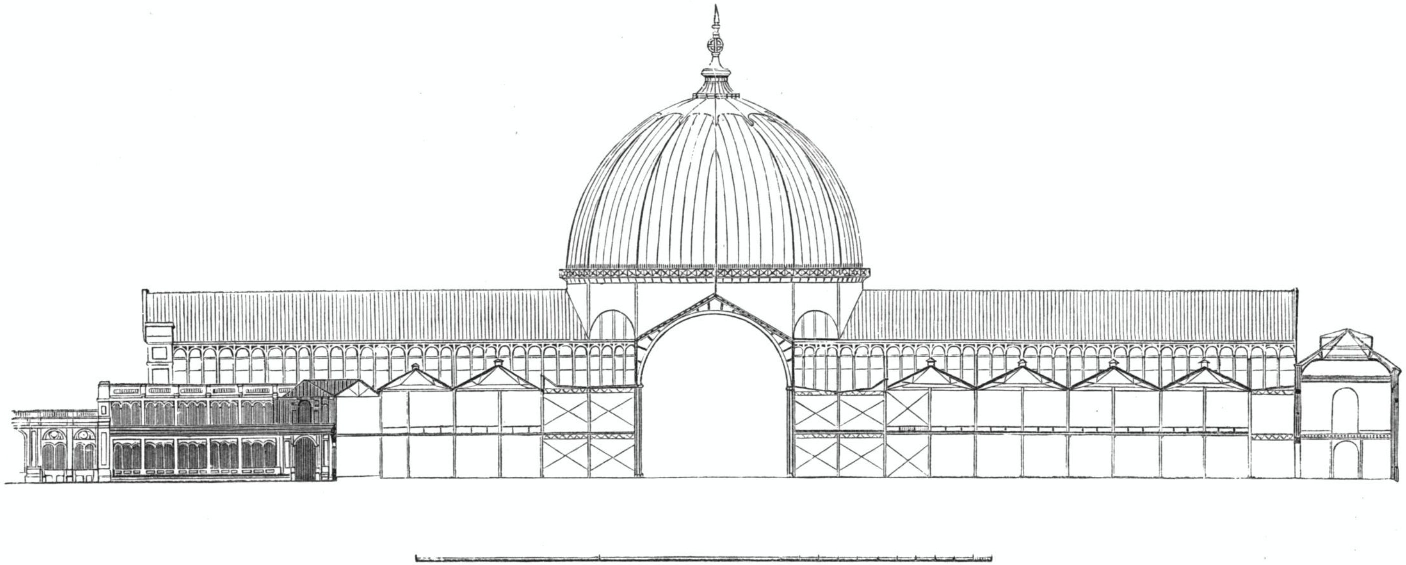
The estimated loss of property last year, as reported by the officers of some of the ships at the time of the several casualties is given. It is, however, absolutely impossible to ascertain correctly the loss of property from all the disasters that annually occur on our coasts. The destruction of fishing-boats, such as was witnessed lately at Yarmouth and Filey, is not referred to in the *Register*.

It is suggested that this lamentable state of things, by which a great loss of life and an immense destruction of property takes place every year, cannot be remedied until all vessels are subjected to a rigid inspection before they put out to sea, in order that it may be accurately ascertained whether they are well found and provided with life-boats, and with such a proper and suitable equipment as will enable them to combat successfully with the elements.

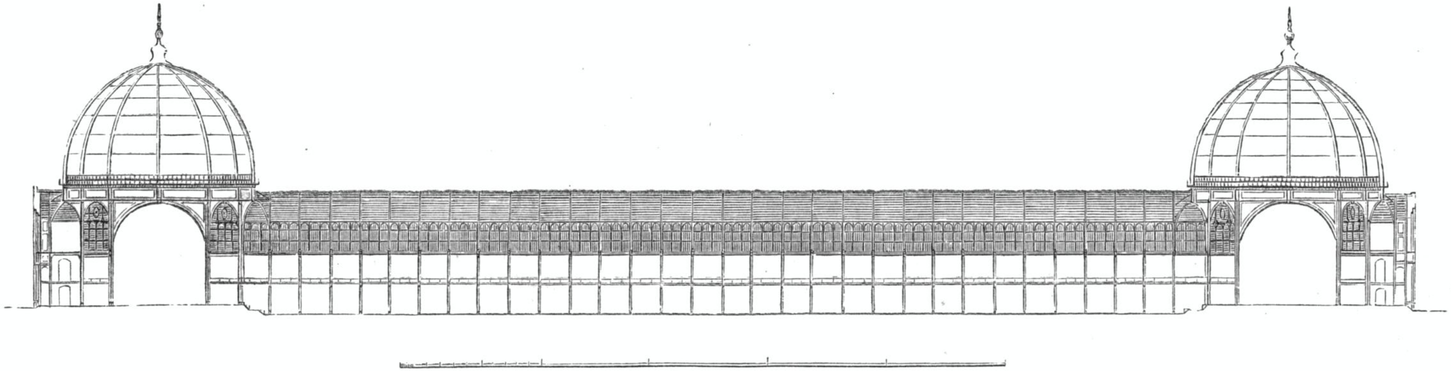
Great stress is laid on this point, because the loss of life from shipwrecks on the coasts alone of the British Isles within the last eleven years is really frightful to contemplate—it amounted to 6,883.

The districts where this immense sacrifice of human life took place were as follow:—

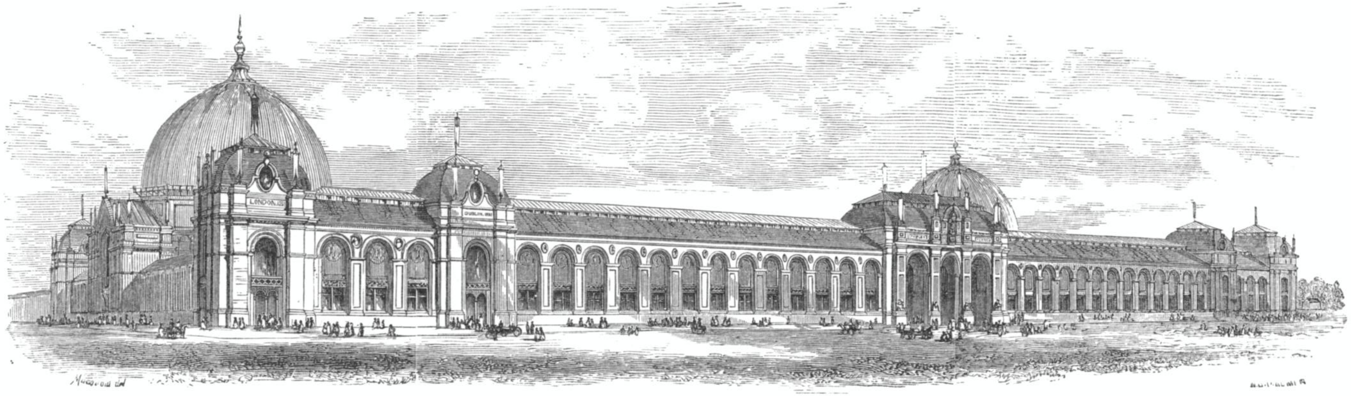
	No.
Farn Islands to Flamborough Head . . .	523
Flamborough Head to the North Foreland . .	957
North Foreland to St. Catherine's Point . . .	465
St. Catherine's Point to Start Point . . .	81
Start Point to the Land's End	445
Land's End to Hartland Point, including Scilly .	330
Hartland Point to St. David's Head . . .	440
St. David's Head and Carnsore Point to Lambay Island and Skerries, Anglesey	879
Skerries and Lambay to Fair Head and Mull of Cantire	1,453
Cape Wrath to Buchan Ness	197
Buchan Ness to Farn Islands	271
All other parts of the Coast	842
Total lives lost	6,883



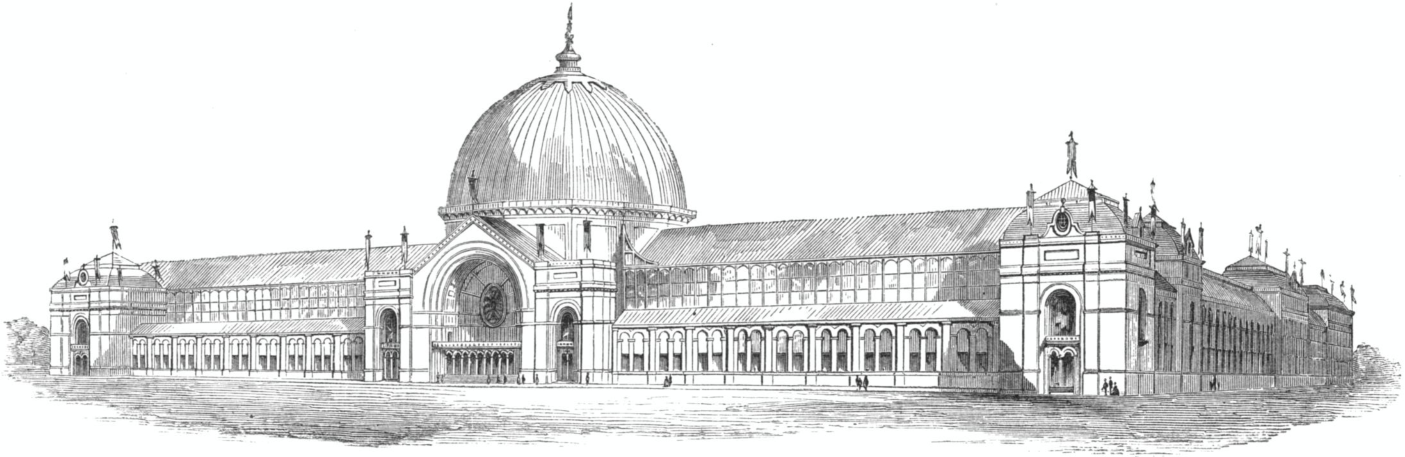
SECTION THROUGH DOME FROM NORTH TO SOUTH.



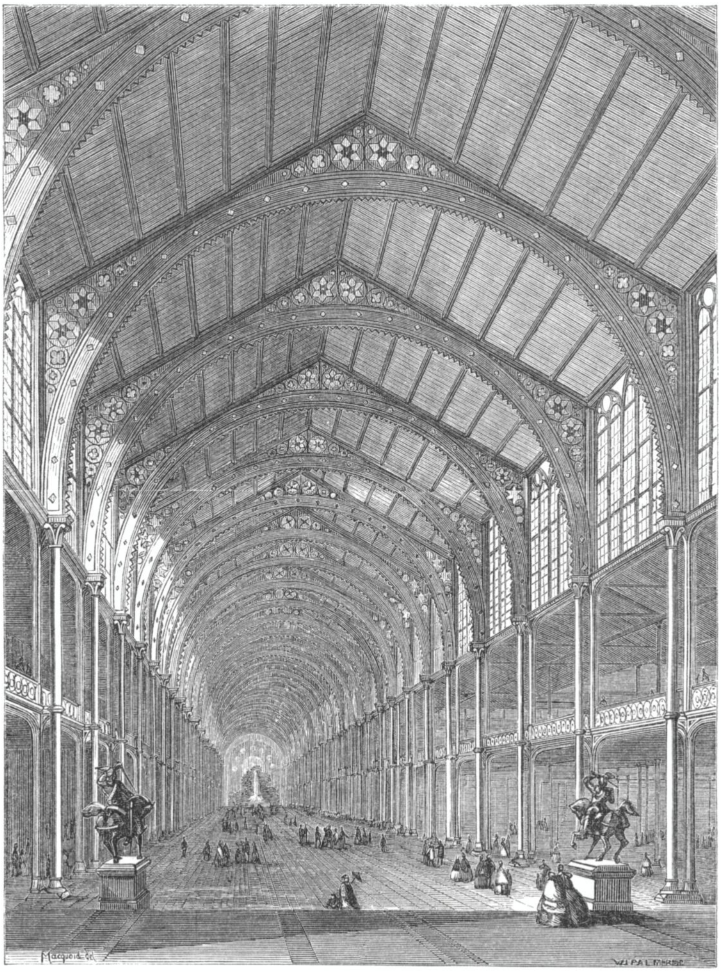
SECTION FROM EAST TO WEST.



FRONT OF THE PICTURE GALLERIES IN CROMWELL ROAD.



FRONT OF THE BUILDING FOR WORKS OF INDUSTRY IN PRINCE ALBERT'S ROAD.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W. J. PALMER SC.

THE NAVE FROM THE PLATFORM BELOW ONE DOME.

Between the Farn Islands and the North Foreland there are sixty-two life-boat establishments, and as many life-saving rocket and mortar stations. Here every winter some of the most daring and persevering life-boat services are performed. The poor sufferers are often snatched from the very jaws of death; and, on the lowest calculation, in addition to this large number of 1,480 persons who have perished in this district, one-third more would have swelled the death-roll had it not been for the services of the life-boats and the life-saving apparatus.

From the above account of the loss of life on the coasts it is seen that the most serious wrecks, resulting in the greatest loss of life, do not happen on the north-east coast of England, as is generally supposed, but on those parts of our coasts most frequented by large foreign ships. A few months ago a large American ship, the *Danube*, was coming up the Irish Channel. Mistaking her position, she found herself on some rocks in Cardigan Bay. A fearful storm was raging at the time. Her signals of distress were observed late in the evening. The Portmadoc life-boat, belonging to the "National Life-boat Institution," was immediately launched to the rescue of the crew, who had taken to their boats. After a night of great hardship and ceaseless toil, the life-boat brought on shore seventeen poor creatures, who were more dead than alive.

During the past nine years the total number of all casualties on the coasts and in the seas of the British Isles are thus given:—

In 1852...	1,115	In 1855...	1,141	In 1858...	1,170
„ 1853...	832	„ 1856...	1,153	„ 1859...	1,416
„ 1854...	987	„ 1857...	1,143	„ 1860...	1,379

Making a total of 10,336

vessels lost in nine years; or 1 lost in every 210 British ships, and 1 in every 232 foreign vessels, and giving an average annual loss of 1,148 vessels on the coasts and in the seas of the United Kingdom.

The sacrifice of life from this great multitude of shipwrecks amounted to 7,001, or an average of 800 lives that meet with a watery grave from shipwreck every year on the coasts and in the seas of the British Isles.

In our narrow seas it is only natural that a large number of collisions should constantly take place. The number of British and foreign vessels entering British ports, including repeated voyages, every year amounts to upwards of 204,945, representing a tonnage of 29,176,196. Vessels clearing outwards, under the same circumstances, every year number 209,402, having a tonnage burden of 29,530,906. We must therefore be prepared for a considerable number of collisions, although, happily it is not increasing. During the past six years they have amounted to 1,788, giving an annual average of nearly 300.

It appears that during the past five years the number of lives saved on the coasts by life-boats, life-saving apparatus, shore and ships' boats, and other means, amounts to 11,495.

A few examples of noble life-boat services are given below.

On the 10th of February last, in the fearful gale from the east which caused such destruction to shipping and terrible loss of life on our east coast, the brig *Providence*, of Shields, coal laden, was driven on the Long Scarr Rocks, between the mouth of the Tees and Hartlepool. The Seaton Carew life-boat, belonging to the National Life-boat Institution, was quickly launched, and proceeding to her assistance through a high surf, took off her crew, eight in number, and landed them in safety. She had scarcely done so when she was again called to the aid of the brig *Mayflower*, of Newcastle, also coal laden, which had gone ashore on the East Gare sand, off the Tees mouth. The life-boat also took off her crew of eight men, and safely landed them. On the previous day this boat had, in conjunction with the West Hartlepool life-boat, endeavoured to save the crew of the brig *Alliance* of Guernsey, and schooner *Warnsbeck* of Shields, which were wrecked on the Long Scarr Rocks, but although every effort was made, they were unsuccessful, owing to the difficult position into which the vessels had driven on these dangerous rocks. As it was, the boat was herself injured and partially disabled thereby. "I wish you had been here on that disastrous Saturday and Sunday (9th and 10th of February)," writes the Honorary Secretary, the Rev. J. Lawson, of the Seaton Carew Branch of the National Life-boat Institution; "I am sure you would have been gratified to see the gallant way in which our crew worked, though composed, as you know, chiefly of landsmen. They were going from 9 a.m. on Saturday until eleven a.m. on Sunday, without rest, and not only attending to our own life-boat, but helping to man the West Hartlepool boat when short of hands."

Again, on the 1st of January, 5 men were saved on the Doomed Bar Bank, Padstow, from the Brigantine *Nugget*, of Bideford. From January 1st to the 6th, 32 men were saved by the Institution's boats, and one vessel was brought safely into harbour. But sometimes darkness is added to the perils which the life-boat men encounter in their exertions on the stormy deep. At Lyme Regis, for instance, the word was given during one of the winter nights that a vessel was in the offing in distress. It was "pitchy dark." A strong gale was blowing, and a heavy surf beating on the shore, but the life-boat men felt that duty called, and they did not hesitate. They went to sea as if it were to their fire-sides they were going; and they were successful in saving a ship's crew. The brief narrative of this adventure tells us that very few on shore believed the life-boat "would ever return," the night was so awful; "it was sufficient to appal any one entering the life-boat."

The payments to the crews of the life-boats are placed in the annual report of the Life-boat Institution, opposite the services thus rendered. For instance, the 16 men belonging to the brigs *Providence* and *Mayflower*, mentioned above, were saved for the sum of £25. At Portmadoc, in a heavy gale with a terrific surf, 17 men were saved for £14. This is about 17s. a head, and flesh and blood is certainly cheap at that rate. The Carnsore life-boat saved 19 persons, at a cost of £22 14s. Here is a strong claim upon the national benevolence, and fortunately it is becoming day by day more openly acknowledged, just as the merits of the National Life-boat Institution become more widely known.

Public and private gratitude calls for the support of this Institution, and some instances have been recorded which show how beautifully gratitude works, and how sweetly its work is repaid. The Carnsore life-boat, mentioned above as saving 19 people from shipwreck, was the "thank-offering" of a lady who was saved from drowning. One sees a striking appropriateness in that thank-offering, as an example of the ruling which brings good out of evil. There is another instance recorded of a similar character. Two ladies, in memory of a departed sister, placed a life-boat at Llandudno, in North Wales, and call it the *Sisters' Memorial*. The memory of departed worth, or departed affection, could not be preserved in a more fitting manner. It is to keep these benevolences in active operation—to endow them for ever, as it were—that the Life-boat Institution appeals to the public. It is an appeal that will stand any test—a cause that only requires to be known to insure a sufficiency of help to keep up its large life-saving fleet of 115 life-boats, and gradually to increase their number.

EXAMINATION PAPERS, 1861.

(*Concluded from page 759.*)

The following are the Examination Papers set in the various subjects at the Society's Final Examinations, held in April and May last:—

GERMAN.

THREE HOURS ALLOWED.

Each candidate is expected to translate one of the following passages; to answer some of the grammatical questions, and turn into German several of the sentences and pieces given for this purpose.

Section I.

1. Tiefe Stille herrschte in Prag, als die Sachsen am andern Morgen davor erschienen: keine Anstalt zur Vertheidigung, nicht ein einziger Schuss von den Wällen, der eine Gegenwehr der Bewohner verkündigte. Vielmehr sammelte sich eine Menge von Zuschauern um sie her, welche die Neugier aus der Stadt gelockt hatte, das feindliche Heer zu betrachten; und die friedliche Vertraulichkeit, womit sie sich näherten, glich vielmehr einer freundschaftlichen Begrüssung, als einem feindlichen Empfange. Aus dem übereinstimmenden Berichte dieser Leute erfuhr man, dass die Stadt leer an Soldaten, und die Regierung nach Budweiss geflüchtet sei. Dieser unerwartete, unerklärbare Mangel an Widerstand erregte Arnheims Misstrauen um so mehr, da ihm die eilfertige Annäherung des Entsatzes aus Schlesien kein Geheimniss, und die Sächsische Armee mit Belagerungswerkzeugen zu wenig versehen, auch an Anzahl bei weitem zu schwach war, um eine so grosse Stadt zu bestürmen.

2. Der Kaiser Friedrich war ein gutgesinnter, nur allzu friedlicher und ruhiger Herr, dessen lange Regierung wenig Rühmliches für Deutschland enthält. Seine Zeitgenossen haben ihn abgebildet, wie er Edelsteine auf einer Goldwage abwägt, oder den Himmelglobus in der Hand sich mit ein paar Gelehrten über den Stand der Gestirne bespricht. Allein in den Lauf der Geschäfte mochte er nicht mit kräftiger Hand eingreifen. Wenn man ihm Missbräuche vorhielt, so meinte er, es möge wohl nirgends ganz gleich and recht hergehen; wenn gehandelt werden sollte, so glaubte er oft es werde sich schon alles von selbst zurechtfinden. In seinen eigenen Angelegenheiten verhielt er sich fast wie ein Beobachter; er sah gern in den Dingen das Allgemeine, Beherrschende, welches allerdings oft die Abweichung wieder herstellt. Allein zu solcher zur Unthätigkeit verleitenden Seelenruhe waren die Verhältnisse der Zeit zu dringend.

3. Solltest du das alles in des Königs Gegenwart wiederholen?

Desto schlimmer, wenn mich seine Gegenwart abschreckte. Desto besser für ihn und für sein Volk wenn er mir Muth machte, wenn er mir Zutrauen einflösste, noch weit mehr zu sagen.

Was nützlich ist, kann ich hören wie er.

Ich würde ihm sagen: Leicht kann der Hirt eine ganze Herde Schafe vor sich hintreiben, der Stier zieht seinen Pflug ohne Widerstand; aber dem edlen Pferde, das du reiten willst, musst du seine Gedanken ablernen, du musst nichts Unkluges unklug von ihm verlangen. Darum wünscht der Bürger seine alte Verfassung zu behalten, von seinen Landsleuten regiert zu sein, weil er weiss, wie er geführt wird, weil er von ihnen Uneigennutz, Theilnehmung an sein Schicksal hoffen kann.

4. Schön is der Friede! Ein lieblicher Knabeü
Liegt er gelagert am ruhigen Bach,
Und die hüpfenden Lämmer grasen
Lustig um ihn auf dem sonnigen Rasen;
Süsse Töne entlockt er der Flöte,
Und das Echo des Berges wird wach,
Oder im Schimmer der Abendröthe
Wiegt ihn in Schlummer der murmelnde Bach.
Aber der Krieg auch hat seine Ehre,
Der Beweger des Menschengeschicks,
Mir gefällt ein lebendiges Leben,
Mir ein ewiges Schwanken und Schwingen and Schweben
Auf der steigenden, fallenden Welle des Glücks.
Denn der Mensch verkümmert im Frieden;
Müssige Ruh' ist das Grab des Muths,
Das Gesetz ist der Freund des Schwachen,
Alles will es nur eben machen,
Möchte gern die Welt verflachen;
Aber der Krieg lässt die Kraft erscheinen,
Alles erhebt er zum Ungemeinen,
Selber dem Feigen erzeugt er den Muth.

GRAMMAR AND MEANING OF WORDS.

(*a.*) How do German substantives form their plural in the different declensions?

(*b.*) When a substantive forms the genitive singular in s, es, n, ns, or n, how are the other cases formed?

Give a few examples in answer to both these questions.

(*c.*) Translate: This house is large; that one is larger; but my brother's is the largest house I ever was in. Which is the largest house in town? This is not my youngest brother's garden; it is that of my oldest aunt. It was not my book; it was yours. They were not our books; they were theirs.

(*d.*) Correct the bad grammar in the following sentences:—

Wann ich tretete in dem Zimmer, ich sah ihm auf das Sopha sitzend.

Nach ich dieses hatte gesagt, ging ich in dem Hause.

Gestern er war noch hier.

Sonst er besuchte mir oft; jetzt er nie kommt zu mich.

Ich habe dieser Morgen zu abschreiben mehreren Briefen, welche noch mit die Post müssen gehen ab.

Kennen Sie der alt Mann, wer war hier dieser Abend?

(*e.*) State the difference between the following words (if possible, in German), and add a few examples:—

Sitzen und setzen; stehen und stellen; liegen und legen; verschwinden und verschwenden; ertrinken and ertränken; nach, nachher, nachdem; langen, erlangen, verlangen; ausgehen und hinausgehen.

(*f.*) What cases or prepositions are governed by the following verbs? (State also the cases governed by each preposition).

Kommen, schicken, nachahmen, sich besinnen, sich verlassen, warten, aufwarten, sich anmassen, danken.

(*g.*) What is the difference between:—

Ich stehe ihm bei, and ich stehe bei ihm; ich laufe nach ihm, and ich laufe ihm nach; er theilt es mit mir, and er theilt es mir mit.

(*h.*) What is the difference between:—

Bande, Bände and Bänder; Worte and Wörter; Tuche and Tücher; Gesichte and Gesichter.

Section II.

Translate ten of the following sentences, either in English or German characters, but very distinctly.

1. He who promises more than he knows he can perform, deceives the person to whom he makes the promise.

2. What is truth? said a well-known personage to one who alone could have told him, and, without waiting for an answer, rose and went his way.

3. Do not most of us do the same?

4. He who does all the good he can does enough.

5. I was to have called on the Prussian ambassador, but I would not.

6. I would have called on him, if I could have spared the two or three hours which I should have had to wait in the ante-room, before I should have been admitted to His Excellency.

7. I think with you, that waiting in this manner is a great loss of time, and very tedious.

8. Why did you not go out yesterday morning?

9. I should have been very glad to have gone out, but I could not.

10. Why could you not?

11. Will you be so good as to tell me why you could not?

12. With pleasure. I was not quite well the evening before, and had sent word to my doctor to come and see me in the morning.

13. Having done so, I was obliged to stay at home, and to wait for him.

14. Can you recommend me any thing to translate from German into English?

15. Having much leisure in the evening, I should like to employ myself with something profitable.

16. What do you understand by profitable?

17. If you mean something that produces money, I would not advise you to spend your time in translating.

18. There are so many people who translate for amusement, that publishers pay scarcely anything for translations.

19. All the prisoners were to be shot the following morning.

20. Of this the commander-in-chief was informed in time to dispatch a courier to his subordinate, to stay this cruel and needless effusion of blood.

21. But unfortunately, when the courier arrived, several of the wretched men were already shot.

22. The remainder, however, were pardoned.

23. The town is ours.

24. How did it come into our hands?

25. It was captured by our brave troops through a surprise in the night.

26. There were more than 500 prisoners taken.

27.* It is now sixteen or seventeen years since I saw the Queen of France, then the Dauphiness, at Versailles; and surely never lighted on this orb, which she hardly seemed to touch, a more delightful vision. I saw her just above the horizon, decorating and cheering the elevated sphere she just began to move in—glittering like the morning star, full of life, and splendour, and joy. Oh! what a revolution! and what a heart must I have, to contemplate without emotion that elevation and that all.—Burke.

Subject for a short and concise Essay, for First-class Certificate.

Durch wen und auf welche Weise verlor Kaiser Karl V. die Früchte des Sieges bei Mühlberg?

FREE HAND DRAWING.

THREE HOURS ALLOWED.

The drawings to be made in pure outline.

Draw the head which is placed before you the size of life.

Draw the plant and flower-pot about one-third the size of nature.

Draw, from memory, a door and porch of a cottage.

Draw, from knowledge, a cube of four feet, in the proportion of about one-inch to a foot.

DIRECTIONS FOR THE LOCAL EXAMINER IN FREEHAND DRAWING.

Place the best plaster bust which can be obtained on a pedestal or table four feet high, for the candidates in free-hand drawing to copy.

Also, a plant or flower in a flower-pot, measuring together nearly two feet.

MECHANICAL DRAWING.

THREE HOURS ALLOWED.

The constructions must be accurate, and clearly show, by plain and dotted lines and letters of reference, the theoretical principles on which they are based.

No candidate must solve more than one question from any Section; no deviation from the conditions is admissible.

I.

1. Draw a square of 3 inches side; divide each of its diagonals into 9 equal parts; through the points of division draw lines parallel to the diagonals; these parallels to end in the sides of the square.

2. Draw 10 concentric circles at $\frac{1}{10}$ inch apart, the largest to be 1·5 inches in radius.

3. Inscribe three equal circles in one of 1·5 inches radius, each circle to touch the other two.

4. Divide a circle of 2 inches radius into 32 equal sectors.

II.

1. Construct a triangle, its sides being in the ratio 2·5: 3 : 3·75 and their sum equal 5 inches.

2. Divide a line 4·5 inches long into two segments such that the rectangle made with them shall be 3 square inches area.

3. Construct an equilateral triangle and a regular pentagon each of 4 square inches area.

4. In a circle of 3 inches diameter inscribe a rectangle having its sides as 2: 3.

5. Divide a square of 2·5 inches side into 5 equal areas by lines drawn through one angle.

III.

1. Draw an ellipse its axes being 3 and 2 inches.

2. Draw a parabola, its focus being at 1 inch from the vertex.

3. Draw the involute to a circle of 1·5 inches radius.

4. Draw the cycloid generated by a circle of 1 inch radius.

IV.

1. Draw the projection of a square of 2 inches side, one corner resting on the paper, two others 1 inch and 1·5 inches above it.

2. Draw the projection of a regular pentagon of 1·5 side, when one of the sides is inclined to the paper at 20°, another inclined at 35°.

3. Draw the projection of the same pentagon when its plane is inclined at 50°, and one diagonal inclined at 30° to the paper.

V.

A prism is 3 inches long with a square base of 1 inch side.

1. Show this prism by a plan and elevation when one diagonal of the solid is vertical.

2. This prism is cut by a plane passing through points in three of its edges at $\frac{1}{4}$; $\frac{1}{3}$; $\frac{1}{2}$; their length, determine the real form of the section.

3. A pyramid is 4·5 inches high; its base is a hexagon of 1 inch side; show it by a plan and elevation either
    a. When one edge is horizontal.
    b. When one face is vertical.
    c. When no face nor edge is either horizontal or vertical.

VI.

1. Draw the plan and elevation of a cube of 2 inches edge, when the planes of two of its faces are inclined to the paper at 30° and 70°.

2. Three spheres of 5; 1; 1·75 inches radii rest on the paper, each sphere touching the other two; draw a plan of them, showing the points of contact.

3. A cone 4 inches high, its base 1 inch radius, lies on its side on the paper; draw its plan, and show a shadow of it, the direction and inclination of the sun's rays being taken at pleasure.

4. Determine at what inclination to that of the base a plane must cut a cylinder, so that the area of the section may be double that of the base.

VII.

1. Two parallel lines 3 inches long and 1·5 inches

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* To be done for a First-class Certificate.

distant from each other are inclined to the paper at 35°, but the end of one is 1 inch, and that of the other at 1·75 inches above the paper.

2. Two indefinite planes intersect each other in a line inclined at 40°, one of them is inclined at 50° the other at 60°, determine the angle contained by the planes.

3. Each of three indefinite planes is perpendicular to the other two, one of them is inclined at 25°, another at 50°, show the three by two horizontal lines in each, at any level.

VIII.

The distance of the eye from the plane of the picture is six inches, the object to be represented in perspective is the square prism described above at paragraph V.; its position may be at pleasure.

1. When the edges are parallel to the plane, and one of them in it, the planes of the bases being one and two inches distant from the horizontal plane.

2. When one edge of the base is parallel to the plane of the picture, and the plane of that base is inclined to the picture at 50°.

3. When no edge of the solid is parallel to the picture.

4. When one diagonal of the solid is perpendicular to the plane of the picture.

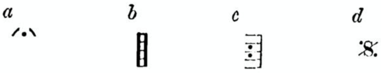
THEORY OF MUSIC.

THREE HOURS ALLOWED.

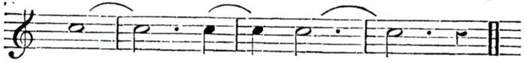
I. Rudiments of Musical Grammar.

1. Explain the following words,—Clef, Syncopation, Andante, Signature.

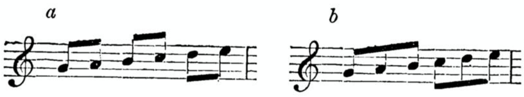
(2.) What are the uses of these characters?



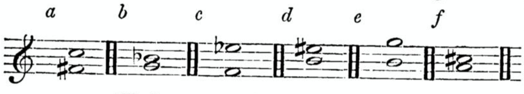
3. How many sounds are represented by the following?



4. How does *a* differ from *b*?



5. What intervals are formed by the following?

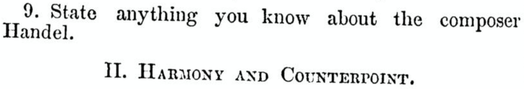


(To be answered on music paper.)

6. Write a bar of music in each of the following kinds of time,—C, $\frac{3}{4}$, $\frac{6}{8}$.

7. Write the signatures of Sol (G), La (A), Si (B), Do (C), major, and of Sol (G), La (A), Si (B), Do (C), minor.

8. Transpose the following into Si (B) minor.

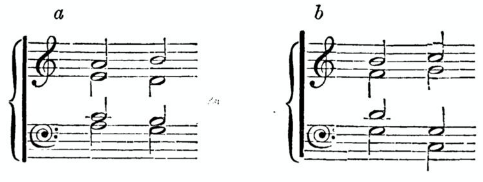


9. State anything you know about the composer Handel.

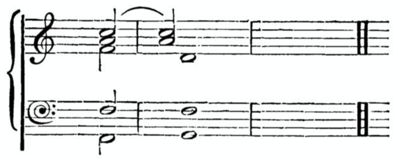
II. Harmony and Counterpoint.

1. How does a discord by suspension differ from a fundamental discord?

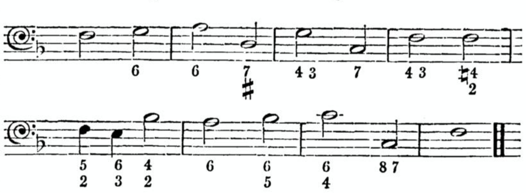
2. Point out the errors in the following:—



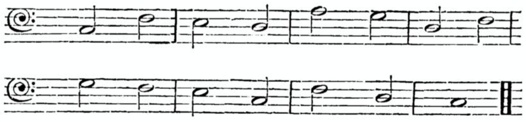
3. Resolve the following:—



4. Add three parts to the following:—



5. Add a part, in any species of counterpoint, to the following:—



6. Write out any psalm tune, chant, or other melody that you can remember, with a bass. Fill in the other parts as far as you can.

EXTRACTS FROM THE REPORTS OF H.B.M. CONSULS.

(*Continued from page 760.*)

Madeira.—Cultivation of Sugar.—Hitherto the staple article of export has been wine; but, in consequence of the total failure of the vintages since 1851, caused by the vine disease generally known by the name of "Oidium Tuckeri," the quantity exported during these years has greatly decreased. The cultivation of the sugar-cane is being greatly extended, and is being substituted for that of the vine, most of the old vines having died, and the growers being discouraged from planting young vines, owing to the continuance of the disease rendering their labour therewith altogether unproductive. The whole of the juice of the sugar cane has as yet been converted into spirit, which, with the exception of twenty-seven pipes exported to Portugal, has been all consumed on the island.

Cloth, Carpets, and Goods of Poland.—The cloths made in Poland are of light description, and not so durable as manufactures of similar price and appearance in England. In former days, an export of cloth took place to Russia and China. This still, I believe, goes on to a certain extent, but since the abolition of the Russo-Polish Tariff, it has become impossible to state the data of such exports, while it appears beyond a doubt that the importation of Russian cloth to Poland has been growing in importance of late years. I have heard complaints made on this score, but, in the absence of data, cannot state how far they may be well grounded. The manufacture of carpets at Warsaw, which, under English direction, has reached much perfection, depends altogether on the high duty, which is not to be reduced. The cotton goods produced are extravagantly dear, and even now, prohibited as they are, can hardly compete with British, Prussian, or Belgian articles of like nature. Their cost is nearly double that of similar productions in England.

SUGAR.—Both in the kingdom of Poland and in the contiguous provinces to the south and east, the cultivation of beetroot, and the conversion of it to sugar, form a favourite speculation of the great land proprietors. The number of sugar mills has reached fifty-two, and I am informed that in the Government of Kiew there are not less than eighty. Millions of pounds are now produced where formerly they could be numbered by thousands. The iron and copper manufactures of Warsaw cannot supply the necessary machinery fast enough, and the workshops of Birmingham and Liège are put largely under contribution in consequence. The old feeble machinery is being everywhere replaced by the most powerful presses, and the only limit of the manufacture, more particularly in the conterminous provinces, arises from the dearness and scarcity of fuel. For the larger and more expensive machinery used in sugar or other factories, foreign countries are much trusted to, although everything of the sort demanded can be, and is to a certain extent, made in Warsaw. Machinery comes in free of duty, and the manufacturers of Warsaw find it impossible to meet the calls upon them without at the same time becoming merchants.

AGRICULTURAL MACHINERY of all sorts is made in Warsaw, after English models. Agricultural implements with the last improvements for the economy of labour, have come very much into fashion, and the attention of the country gentlemen, is constantly directed towards them. In this respect a very satisfactory movement is apparent. The consequent demand in the manufactures of Warsaw for agricultural purposes is far more than they are able to supply. One firm, in 1856, sold no less than 400 threshing-machines, which are made on a somewhat simpler plan than those commonly used in England. The knives for chaff-cutters, scythes, sickles, &c., are nearly all imported from England.

Home Correspondence.

◆

INTERNATIONAL PHILANTHROPIC CONGRESS OF 1862.

SIR,—I gladly avail myself of the opportunity afforded me by my worthy friend Mr. H. Roberts, (See *Journal of the Society of Arts*, October 4th, page 761) for explaining the discrepancy between the present mode of numbering the sessions of the Philanthropic Congress and that which has hitherto prevailed.

The gathering of philanthropists organised at Paris in 1855 by the Société d'Economie Charitable, and which held its sittings in the spacious building of the Société d'Encouragement pour l'Industrie Nationale, was, both in character and in importance, a Congress, as may be seen by the *Compte-rendu* published in the volume of the *Annales de la Charité* for that year. Nevertheless, as this meeting was convened under the title of Réunion Internationale de Charité it has been passed over, and the Brussels and Frankfort Conferences have been generally styled 1st and 2nd session of the International Philanthropic Congress. The Société d'Economie Charitable having resumed the leadership, it is quite natural that its former exertions should be fully recognised, and that the Paris Conferences should be considered as the 1st session, and the one proposed for 1862 as the 4th. This is a matter of courtesy between my continental friends, in which I have thought it best not to interfere. In order, however, to prevent confusion, it may be as well to designate in future the several sessions by their locality rather than by their numerical order.

I am, &c.,

T. TWINING, Junr.

Twickenham, Oct. 7th, 1861.

PATENT LAW AMENDMENT ACT.

◆

APPLICATIONS FOR PATENTS AND PROTECTION ALLOWED.

[*From Gazette, October 4th*, 1861.]

Dated 18*th June*, 1861.

1563. T. Webb and J. Craig, Tutbury, Staffordshire—Imp. in machinery or apparatus for spinning, doubling, and winding cotton and other fibrous materials.

Dated 8*th July*, 1861.

1732. T. Cobley, Meerholz, Germany—An improved process for the manufacture of fluo-silicates and silicates of lead and baryta, and for the application of the same to various purposes in the arts and manufactures.

Dated 9*th July*, 1861.

1734. T. Cobley, Meerholz, Germany—An improved process for the treatment of silicates of metallic and non-metallic bases and other siliceous compounds, as slags, scoriæ, and such like, in order to recover the said bases, and also in the production of fluo-silicic and silicic acids.

Dated 13*th July*, 1861.

1760. G. Rydill, Dewsbury, Yorkshire—An improved smoke consumer and condenser suitable for factories, railway engines, steam ships, furnaces, brick kilns, cinder ovens, bakehouses and other purposes, namely, ventilation of factories, houses of parliament, places of public worship, public institutions, dwelling houses, streets, coal mines, railway tunnels, mineral mines, iron works.

Dated 15*th July*, 1861.

1775. J. C. Coombe and J. Wright, 42, Bridge-street, Blackfriars—Imp. in the manufacture of glass, pottery, porcelain, and other ceramic and plastic wares.

Dated 24*th July*, 1861.

1854. J. Badard, 1, Rue St. Cecile, Marseilles—Imp. in machinery or apparatus for turning and planing metals, the tool advancing sideways and cutting in an oblique position.

Dated 5*th August*, 1861.

1937. F. Richmond and H. Chandler, Salford, and W. B. Ritchie, Belfast—An improved sack holder.

Dated 9*th August*, 1861.

1984. L. Vassiviere, Lyons—An improved smoke consuming apparatus.

Dated 15*th August*, 1861.

2039. J. Combe, Belfast—Imp. in machinery for hackling flax and other fibrous substances.

Dated 20*th August*, 1861.

2064. A. S. Rostaing, Dresden—Imp. in the construction of spectacles

Dated 21*st August*, 1861.

2085. A. Stein, Edinburgh—Imp. in distillation.

Dated 22*nd August*, 1861.

2099. R. Telford, Birmingham, and J. Sanders, Clifton—A substitute for castors for furnitue.

2101. T. F. Doyle, 3, Guildford-place, Russell-square—Imp. in means or apparatus for raising and forcing fluids.

Dated 26*th August*, 1861.

2124. A. Lechene, 9, Stanhope-street, Hampstead-road, and C. Nathan, 17, Westmorland-street, Pimlico—Imp. in the manufacture of ladies' collars, cuffs, or other ornamental articles for dress or furniture, to imitate such articles made of lace or embroidery.

2125. J. L. Field, Colton Haverthwaite, near Newton-in-Cartmel, Lancashire—Imp. in the construction of armour plates and in their application to ships and batteries.

Dated 27*th August*, 1861.

2132. E. Peltier, Paris—Imp. in the manufacture of metallic boxes, and in machinery employed therein.

Dated 31*st August*, 1861.

2183. G. F. Goransson, Gefle, Sweden—Imp. in the manufacture of tyres for railway wheels, and in the apparatus employed therein, part of the said imp. being applicable to the consolidating or rendering homogeneous iron and steel for other purposes.

Dated 2*nd September*, 1861.

2188. J. Watson, Glasgow—Imp. in furnaces.

Dated 5*th September*, 1861.

2214. W. Patey, junior, Lombard-street, and J. Richardson, Brewer-street, Clerkenwell—Imp. in the manufacture of shaving brushes.

2215. T. Scott, Newcastle—Imp. in apparatus for utilizing the surplus momentum of railway trains and other moving bodies, and the waste and surplus power of locomotive and other engines.

Dated 6th September, 1861.

2226. W. Allott and J. Thelwall, Hull—Imp. in the manufacture of wheel tyres, hoops, and other similar articles.
2227. W. Allott and T. Thelwall, Hull—Imp. in the manufacture of crank shafts and crank axles, and other similar articles.

Dated 13th September, 1861.

2274. W. H. Delamare, 14, Clarence-place, Hackney-road—An improved machine for purifying and peeling corn.
2276. R. Smith, Weymouth-cottage, Hornsey, B. Brookes, 2, Albert-terrace, York-road, King's-cross, and J. Smith, 2, Oak-villas, Wood-green, Tottenham—Imp. in the construction of roof and other lights.
2277. G. C. Haseler, 19, Victoria-street, Birmingham—Imp. in lockets.
2278. R. Fell, Kingsland—Imp. in compressing and rarefying atmospheric air, with machinery for applying the same to obtain a motive power, part of which is applicable for cooking purposes.
2284. W. E. Newton, 66, Chancery-lane—Imp. in guns. (A com.)

Dated 14th September, 1861.

2286. J. A. Knight, 4, Symonds-inn, Chancery-lane—An improved apparatus for rendering fatty or oleaginous matter, and delivering the same. (A com.)
2288. R. Waller, 50, Baker-street, Portman-square—Imp. in machinery and apparatus for manufacturing and refining cane juice and other saccharine substances.
2289. W. Wheatsoue, 20, Conduit-street, St. George's, Hanover-square—Imp. in concertinas and other musical instruments, the tones of which are produced from the vibration of springs.
2290. J. Lea, Widnes Dock, near Warrington—Imp. in self acting signals for railways.
2294. A. Green and W. H. Glover, Stourbridge—Imp. in the manufacture of vice boxes.
2296. G. Hawksley, Three Mill-lane, Bromley—Imp. in traction and locomotive engines.

Dated 16th September, 1861.

2300. S. Horsley and E. H. Jones, Liverpool—Imp. in apparatus for cleaning and polishing boots, shoes, and other coverings for the feet, partly applicable for cleaning plate and other articles of domestic use.
2302. W. E. Gedge, 11, Wellington-street, Strand—Improved apparatus for drying grain. (A com.)
2304. T. Meriton, Second Berrard Strasse, Saint Pauli, Hamburgh—Imp. in steering apparatus.
2310. R. A Brooman, 166, Fleet-street—Imp. in apparatuses for stretching, supporting, and uniting telegraph wires. (A com.)

Dated 17th September, 1861.

2314. B. Samuelson, Banbury—Imp. in harvesting machines.
2320. T. Statham, Salford, and W. Statham, Openshaw, Lancashire—Certain imp. in machinery or apparatus for mowing and reaping.
2322. A. H. Bailey, Boston, U.S.—An improved system of combination types, and an improved case for containing the same.

Dated 18th September, 1861.

2325. W. Cory, jun., Coal Exchange—Imp. in vessels and machinery for unloading colliers and other vessels containing coals.
2326. E. A. Cowper, 35A, Great George-street, Westminster—Imp. in apparatus for freeing gases from dust and other particles of matter floating therein, and for causing vapours or gases to be absorbed by liquids.
2327. H. Wickens, 4, Tokenhouse-yard—Imp. in reaping and mowing machines. (A com.)
2328. E. Partington, Heap-bridge, Lancashire—Certain imp. in machinery or apparatus employed in the manufacture of paper.
2329. A. J. Beer, Canterbury—Imp. in the valves of steam and other motive engines.
2330. G. Ferry, Hoxton—An improved anchor.
2331. E. Suckow and E. Habel, Manchester—Imp. in machinery or apparatus for opening and cleaning cotton and other fibrous materials.
2332. J. Gurman, Onslow-road, Southampton—Imp. in the fittings and method of hanging window sashes to facilitate their removal for cleaning and other purposes.

Dated 19th September, 1861.

2345. S. Hawksworth, Doncaster—Imp. in the manufacture of floor cloth and in ornamenting other surfaces.
2347. R. P. P. Dagron, Paris—An improved microscope to be used for exhibiting photographic views and productions.

Dated 20th September, 1861.

2349. T. M. Gladstone, Parliament-street, Westminster—An imp. in the construction and form of anchors.
2353. C. Davidson, Yalding, Kent—Imp. in thrashing machines.
2357. W. G. Creamer, Woburn-place—Imp. in railway brakes, and in apparatus for actuating the same.
2359. F. W. Wymer, 7, St. Ann's-row, Newcastle-on-Tyne—Imp. in apparatus used in sounding the holds of ships or vessels.

Dated 21st September, 1861.

2361. L. R. Bodmer, 2, Thavies-inn, Holborn—Imp. in gaseliers and in ventilating apparatus connected therewith.
2365. A. W. Stableford, Oldbury, Worcestershire—Imp. in the manufacture of wheels, and in securing tyres on or to wheels.

Dated 23rd September, 1861.

2369. J. H. Duley, Northampton—An imp. in the manufacture of axle boxes and bushes.
2371. H. Plantrou, jun., 15, Passage des Petites Ecuries, Paris—Imp. in washing and scouring wools by the introduction of air into the water, using an aeriform washing apparatus.
2373. H. Brinsmead, Ipswich—Imp. in apparatus for raising and stacking straw and other agricultural produce.
2375. A. A. Hely, Forest Hill, Surrey—Imp. in the construction of portable fire-arms.

Dated 24th September, 1861.

2379. W. E. Wiley, Great Hampton-street, Birmingham—Imp. in pens and penholders.
2381. G. J. Gladstone, Blackwall—Imp. in apparatus for disengaging boats.
2383. C. Watt, Graham-street, and C. J. Watt, Lorrimore-street, Walworth, and T. S. Haviside, Cornhill—An improved mode or method of bleaching palm oil.
2385. J. Cottrill, Studley, Warwickshire—An imp. or imps. in the manufacture of certain descriptions of needles.

Dated 25th September, 1861.

2389. J. Musgrave, Bolton-le-Moors—Certain imp. in the application of steam power.
2391. H. Purnell, Glasgow—Imp. in constructing and arranging warming apparatus.
2393. W. T. Crane and T. J. Ellis, Liverpool-road—Improved means of applying breaks to omnibuses and other four-wheeled carriages.
2395. A. V. Newton, 66, Chancery-lane—Imp. in the construction of and mode of working telegraphic apparatus. (A com.)
2397. J. Vaughan, Middlesbrough, Yorkshire—Imp. in treating gas produced by blast furnaces in its passage from the blast furnaces to other furnaces, stoves, boilers, or other heating apparatus where gas may be employed.

Inventions with Complete Specifications Filed.

2387. J. Banks, 19, Salisbury-street, Adelphi—Imp. in electro-magnetic telegraph printing apparatus or marking instruments, and the instruments or apparatus to be used in connection therewith.—25th September, 1861.
2439. H. Hickman, Birmingham—An imp. or imps. in protecting the locks or sights of fire-arms.—30th September, 1861.

Patents Sealed.

[*From Gazette, October 4th*, 1861.]

October 3rd.

734. W. T. Henley.
825. J. G. N. Alleyne.
829. R. A. Brooman.
831. W. H. McNary.
837. C. Burn.
841. R. B. Greenwood.
846. J. Dunn.
847. J. Hutson.
855. W. Smith.
859. J. Clark.
860. J. Walker and J. Barnes.
864. R. A. Brooman.
865. G. Davies.
867. H. G. Prossor.
870. W. H. Phillips.
872. J. Higgins and T. S. Whitworth.
874. W. Wood.
877. F. Ransome.
902. T. Carr.
917. C. D. Abel.
928. S. Ridge.
934. C. Fletcher.
943. W. A. Dixon.
969. W. Grove.
982. W. Clark.
1019. C. Stevens.
1038. R. Gray.
1160. J. Nadal.
1249. H. Gilbee.
1324. W. Kay and I. Kay.
1812. G. Coles, J. A. Jaques, and J. A. Fanshawe.
1825. J. H. Johnson.
1961. D. Miles.

Patents on which the Stamp Duty of £50 has been Paid.

[*From Gazette, October 4th*, 1861.]

September 30th.

2174. J. Wright.
2279. H. Parker.

October 1st.

2200. S. Stimpson.
2408. B. Foster and P. Smith.
2486. B. D. Webster and J. Horsfall.

October 2nd.

2192. J. Rogers.

[*From Gazette, October 8th*, 1861.]

October 3rd.

2223. W. Malam.

Octhber 4th.

2207. A. Bessemer.
2209. W. Menelaus.
2211. J. H. Brown.
2213. J. H. Brown.

October 5th.

2212. G. Hamilton and W. H. Nash.
3229. J. C. Nouveau.
2230. D. Naylor.
2329. J. Whitworth.
3641. D. Evans.

Patents on which the Stamp Duty of £100 has been Paid.

[*From Gazette, October 8th*, 1861.]

October 4th.

2140. W. B. Adams.